Claims

I claim:

1. A food labeling device powerable by an electrical source for printing time/date information on a label strip with adhesive backing for attachment to food items which is removably adhered to a backing strip formed as a label roll, comprising:

a housing adapted for receiving the label roll;

a controller associated with said housing adapted for computing and outputting the time/date information in the form of control signals upon receipt of a request therefor;

at least one input device associated with said housing adapted for a user to operate said controller including setting the time/date information and for submitting the request therefor;

a display device associated with said housing adapted for receiving the control signals from said controller and displaying the time/date information for the user to view;

a printing device associated with said housing adapted for receiving the control signals from said controller and imprinting the time/date information on the label strip passing thereby from the label roll;

a transport device associated with said housing adapted for receiving the control signals from said controller and advancing the label strip in a coordinated manner with printing of the time/date information by said printing device on the label strip; and

wherein said controller, input device, display device, printing device, and transport device are powered by the electrical source.

2. The food labeling device according to Claim 1, wherein the housing is of such size as to be held in-hand and defines an interior chamber in which the controller, the electrical source, each input device, the display device, the printing device, and the transport device are disposed, said display device being viewable through a display hole through said housing, each input device being accessible by the user through respective input device holes through said housing, and the label strip

being passable outwardly from within said housing through a label outlet slot extending through said housing.

3. The food labeling device according to Claim 2, wherein the housing includes a battery compartment within the interior chamber into which the electrical source in the form of a portable electrical storage device is removably insertable.

4. The food labeling device according to Claim 2, wherein the housing comprises respective front and rear housing halves which interconnect to define an interior chamber, said front housing half having a front wall and a peripheral half wall which extends rearwardly therefrom, and said rear housing half having a rear wall and a peripheral half wall which extends forwardly therefrom, said peripheral half walls fitting together at respective edges.

5. The food labeling device according to Claim 2, wherein a transparent protector plate is disposed over the display device.

6. The food labeling device according to Claim 1, wherein the controller includes a processor adapted for executing sequences of program instructions with a clock device for computing the time/date information, said processor being responsive to the signals from the input device for operation thereof, at least one program memory device for storing the sequences of program instructions, at least one data memory device for temporarily storing data including the time/date information from said processor and data from said program memory device, said data being sent to the display device and to the printing device for controlling operation thereof.

7. The food labeling device according to Claim 6, wherein the program memory device comprises at least one device chosen from the group consisting of a read only memory (ROM) device

and a programmable read only memory (PROM) device, and the data memory comprises at least one random access memory (RAM) device.

8. The food labeling device according to Claim 1, wherein the display device comprises a liquid crystal display.

9. The food labeling device according to Claim 1, wherein the housing includes at least one mounting device affixed to a rear portion of said housing adapted for mounting the food labeling device to a mounting surface.

10. The food labeling device according to Claim 9, wherein the mounting devices comprise magnets affixed adapted for removably magnetically mounting the food labeling device to mounting surfaces made of ferrous metal.

11. The food labeling device according to Claim 1, wherein the housing is adapted to receive the label roll within the interior chamber.

12. The food labeling device according to Claim 11, wherein a rear portion of the housing includes a label roll receiving hole sized for insertion of the label roll into said interior chamber, and said housing having a label roll support adapted for positioning and rotatably supporting the label roll within the interior chamber.

13. The food labeling device according to Claim 12, wherein the label roll receiving hole is substantially circular in shape with a finger receiving portion which extends radially therefrom adapted to facilitate removal of the label roll from the interior chamber.

14. The food labeling device according to Claim 12, wherein the label roll receiving hole is defined by an interior wall which extends forwardly from the rear portion to define a label roll receiving chamber of the interior chamber.

15. The food labeling device according to Claim 12, wherein the label roll support includes at least one resiliently flexible arm which extends inwardly into the label roll receiving hole from the rear portion of the housing terminating at a central disk with a centering post which extends forwardly therefrom to fit within a tubular core of the label roll.

16. The food labeling device according to Claim 15, wherein the label roll support includes a pair of resiliently flexible arms which extend inwardly into the label roll receiving hole from the rear portion of the housing and converge on the central disk.

17. The food labeling device according to Claim 1, wherein input devices include an actuator switch to initiate label printing and at least one time/date set switch for setting the time/date information of the controller.

18. The food labeling device according to Claim 17, wherein the actuator switch and time/date set switches are of a push button type.

19. The food labeling device according to Claim 17, wherein one input device comprises a power switch.

20. The food labeling device according to Claim 1, wherein the printing device comprises a thermal printing device for printing on thermal printable label strips.

21. The food labeling device according to Claim 20, wherein the thermal printing device includes a support frame adapted to receive the label strip therethrough, a thermal printing head fixedly mounted to said support frame, and a cylindrical platen rotationally mounted to said support frame closely adjacent said thermal printing head to frictionally engage the label strip.

22. The food labeling device according to Claim 21, wherein the transport device includes a drive motor mounted to the support frame and operably connected to the platen adapted to receive the control signals from the controller and rotate said platen in the coordinated manner with printing by said thermal printing head on the label strip.

23. The food labeling device according to Claim 22, wherein the drive motor is operably connected to the platen through a plurality of gears.

24. The food labeling device according to Claim 22, wherein the drive motor comprises an electric stepping motor.

25. The food labeling device according to Claim 24, wherein the drive motor further comprises a gear box driven by the stepping motor which drives the gears.

26. The food labeling device according to Claim 1, further comprising:

a position sensor adapted to sense positioning of the label strip by detecting a plurality of markers on the label strip disposed at substantially equally spaced positions for determining position of the individual labels relative to the printing device; and

wherein the controller is adapted for printing label strips comprised of a plurality of individual labels with adhesive backing which are removably adhered in a linear spaced manner to the backing strip.

27. The food labeling device according to Claim 26, wherein the position sensor is adapted to detect markers of a type chosen from the group consisting of perforations and printed indicia.

28. The food labeling device according to Claim 1, wherein the housing includes a cutting blade mounted thereto having a cutting edge disposed immediately adjacent the label outlet slot.

29. A food labeling device powerable by an electrical source for printing time/date information on a label strip with adhesive backing for attachment to food items which is removably adhered to a backing strip formed as a label roll, comprising:

a housing adapted for receiving the label roll;

a controller associated with said housing adapted for computing and outputting the time/date information in the form of control signals upon receipt of a request therefor;

at least one input device associated with said housing adapted for a user to operate said controller including setting the time/date information and for submitting the request therefor, said input devices including an actuator switch to initiate label printing and at least one time/date set switch for setting the time/date information of said controller;

a display device associated with said housing adapted for receiving the control signals from said controller and displaying the time/date information for the user to view;

a printing device associated with said housing adapted for receiving the control signals from said controller and imprinting the time/date information on the label strip passing thereby from the label roll;

a transport device associated with said housing adapted for receiving the control signals from said controller and advancing the label strip in a coordinated manner with printing of the time/date information by said printing device on the label strip; and

wherein said controller, input device, display device, printing device, and transport device are powered by the electrical source, said housing is of such size as to be held in-hand and defines an interior chamber in which said controller, said electrical source, each input device, said display device, said printing device, and said transport device are disposed, said display device being viewable through a display hole through said housing, each input device being accessible by the user through respective input device holes through said housing, and the label strip being passable outwardly from within said housing through a label outlet slot through said housing, said housing including a battery compartment within said interior chamber into which the electrical source in the form of a portable electrical storage device is removably insertable, said housing including at least one mounting device affixed to a rear portion of said housing adapted for mounting the foo labeling device to a mounting surface.

30. The food labeling device according to Claim 29, wherein the display device comprises a liquid crystal display, the housing is adapted to receive the label roll within the interior chamber, and the printing device comprises a thermal printing device for printing on thermal printable label strips.

31. The food labeling device according to Claim 30, wherein a rear portion of the housing includes a label roll receiving hole sized for insertion of the label roll into said interior chamber, and said housing having a label roll support adapted for positioning and rotatably supporting the label roll within the interior chamber, and said label roll support includes at least one resiliently flexible arm which extends inwardly into the label roll receiving hole from the rear portion of the housing terminating at a central disk with a centering post which extends forwardly therefrom to fit within a tubular core of the label roll.

32. The food labeling device according to Claim 29, further comprising:

a position sensor adapted to sense positioning of the label roll by detecting a plurality of markers on the label strip disposed at substantially equally spaced positions for determining position of the individual labels relative to the printing device; and

wherein the controller is adapted for printing label strips comprised of a plurality of individual labels with adhesive backing which are removably adhered in a linear spaced manner to the backing strip and said position sensor is adapted to detect markers of a type chosen from the group consisting of perforations and printed indicia.

33. A food labeling device powerable by an electrical source for printing time/date information on a label strip with adhesive backing for attachment to food items which is removably adhered to a backing strip formed as a label roll, comprising:

a housing adapted for receiving the label roll;

a controller associated with said housing adapted for computing and outputting the time/date information in the form of control signals upon receipt of a request therefor;

at least one input device associated with said housing adapted for a user to operate said controller including setting the time/date information and for submitting the request therefor, said input devices including an actuator switch to initiate label printing and at least one time/date set switch for setting the time/date information of said controller;

a display device associated with said housing adapted for receiving the control signals from said controller and displaying the time/date information for the user to view;

a printing device associated with said housing adapted for receiving the control signals from said controller and imprinting the time/date information on the label strip passing thereby from the label roll, said printing device including a support frame adapted to receive the label strip therethrough, a printing head fixedly mounted to said support frame, and a cylindrical roller

rotationally mounted to said support frame closely adjacent said printing head to frictionally engage the label strip;

a transport device associated with said housing adapted for receiving the control signals from said controller and advancing the label strip in a coordinated manner with printing of the time/date information by said printing device on the label strip, said transport device including a drive motor comprising an electric stepping motor mounted to said support frame and operably connected to said roller platen adapted to receive said control signals from said controller and rotate said roller in the coordinated manner with said printing head; and

wherein said controller, input device, display device, printing device, and transport device are powered by the electrical source.

34. The food labeling device according to Claim 33, wherein the printing device comprises a thermal printing device for printing on thermal printable label strips.

35. The food labeling device according to Claim 33, wherein the drive motor is operably connected to the platen through a plurality of gears, and said drive motor further comprises a gear box driven by the stepping motor which drives said gears.

36. The food labeling device according to Claim 33, further comprising:

a position sensor adapted to sense positioning of the label strip by detecting a plurality of markers on the label strip disposed at substantially equally spaced positions for determining position of the individual labels relative to the printing device; and

wherein the controller is adapted for printing label strips comprised of a plurality of individual labels with adhesive backing which are removably adhered in a linear spaced manner to the backing strip and said position sensor is adapted to detect markers of a type chosen from the group consisting of perforations and printed indicia.